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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/599,160
Filing Date: September 21, 2006
Appellant(s): HABETHA ET AL.

Brain S. Myers
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 06/28/11appealing from the Office action mailed 02/02/11.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The summary of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of the claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement on the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the appellant's brief is correct.

(8) Evidence Relied Upon

2003/0169697	Suzuki et al.	09 - 2003
2003/0012176	Kondylis et al.	01 – 2003

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3, 5-7, 9-11, 21-22, 26-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Suzuki et al. (US Patent Publication 2003/0169697 herein after referenced as Suzuki).

Regarding claim 1, Suzuki discloses:

The applicant claims "A method for a distributed beaconing period protocol for a device in an ad hoc network of devices" (Fig. 4 & Paragraph [0183] of Suzuki, wherein Suzuki discloses having a parent daughter relationship between piconets, therefore an adhoc network).

The applicant claims "comprising the device performing: dividing a medium access time into a sequence of at least one contiguous superframe beginning at a Beacon Period Start Time; partitioning the superframe into a slotted Beaconing Period (BP) having a plurality of contiguous beacon slots, followed by a data transfer period" (Figs. 4 & 7 & 17 of Suzuki, wherein Suzuki discloses a parent superframe has slotted contiguous beacon slots followed by data transfer period shown on Fig. 17 and wherein Suzuki discloses a TDMA frame having a beacon, contention access period and contention free period as well as disclosing each user being a controller and having daughter networks with the same format, therefore since the superframe has a beacon period, it would have been inherent to have a beaconing start time and stop time for each period).

The applicant claims "and associating with at least one of an existing ad hoc network BP or creating a new ad hoc network BP as the BP of the device" (Paragraphs [0195] & [0199] of Suzuki, wherein Suzuki discloses participating as a daughter piconet in the adjacent piconet when receiving a beacon signal and becoming a parent piconet if no beacon signal is received).

Regarding claim 2, Suzuki discloses:

The applicant claims "The method of claim 1, further comprising:
if the BP of the device is not protected in at least one neighboring BP, protecting the unprotected BP in the at least one neighboring BP; and once the BP of the device is protected, operating normally" (Paragraphs [0207] - [0210] of Suzuki, wherein Suzuki discloses a daughter piconet appearing in a state with no timeslot assigned and the parent piconet assigning the unassigned area for the daughter piconet wherein once the daughter piconet receives the beacon signal from the parent piconet, the daughter piconet will start operating in the unassigned area).

Regarding claim 3, Suzuki discloses:

The applicant claims "The method of claim 2, wherein the protecting the unprotected BP step further comprises including a first reservation for the
BP in the own beacon of the device in the at least one neighboring BP" (Paragraph [0206]–[0207] of Suzuki, wherein Suzuki discloses the daughter piconet sending a timeslot assignment request to the parent piconet, therefore the daughter piconet is sending a reservation request for its own BP).

Regarding claim 5, Suzuki discloses:

The applicant claims "The method of claim 3, wherein the associating further comprises: choosing an empty slot of the BP of the device; and
beaconing a beacon of the device in the chosen empty slot" (Paragraph [0206] – [0208] of Suzuki, wherein Suzuki discloses the daughter piconet sending a time slot assignment request from the parent piconet and receiving the parent piconet beacon

signal including the unassigned area information so that the daughter piconet starts operating in the unassigned area).

Regarding claim 6, Suzuki discloses:

The applicant claims "The method of claim 5, further comprising including information regarding the beacons of other devices in the own beacon of the device" (Fig. 4 of Suzuki, wherein Suzuki discloses the frame format of the parent having multiple users each user being a daughter of the parent network and each daughter network acting as a parent network having its own daughter network and beacons for other devices, therefore each parent network has a second reservation having the beaconing period of other devices).

Regarding claim 7, Suzuki discloses:

The applicant claims "The method of claim 6, wherein the protecting the unprotected BP further comprises including a second reservation in the own beacon of the device to announce the BP of said other devices" (Fig. 4 of Suzuki, wherein Suzuki discloses the frame format of the parent having multiple users each user being a daughter of the parent network and each daughter network acting as a parent network having its own daughter network and beacons for other devices, therefore each parent network has a second reservation having the beaconing period of other devices).

Regarding claim 9, Suzuki discloses:

The applicant claims "The method of claim 3, wherein the associating comprises: scanning the medium to detect at least one BP during the at least one superframe; if at least one BP is not detected, starting a new BP as the BP of the device at a beacon

period start time calculated in a pre-determined manner" (Fig. 4 & Paragraph [0199] of Suzuki, wherein Suzuki discloses not receiving a beacon signal from an adjacent station and operating as its own parent piconet, therefore it conducts scanning to determine if a beacon signal having a superframe with a beacon period is received and if not detected starting its own piconet having its own beacon period with its own start time).

The applicant claims "and if at least one BP is detected, deciding to perform one: i. joining at least one of the at least one detected BP as the BPs of the device, and ii. starting a new BP as the BP of the device at a beacon period start time determined in a pre-determined manner" (Fig. 4 & Paragraph [0195]-[0196] & [0199] of Suzuki, wherein Suzuki discloses receiving a beacon signal from the adjacent station and comparing if the address of the own station is newer than the adjacent station and deciding whether to join the adjacent station piconet as a daughter or operate as its own parent piconet).

Regarding claim 10, Suzuki discloses "The method of claim 9." The examiner rejects claim 10 with the same arguments provided above (see claim 5).

Regarding claim 11, Suzuki discloses "The method of claim 10." The examiner rejects claim 11 with the same arguments provided above (see claim 6).

Regarding claim 21, Suzuki discloses:

The applicant claims "The method of claim 2, wherein the operating normally further comprises terminating the BP" (Paragraph [0153] of Suzuki, wherein Suzuki discloses clearing the unassigned area once the beacon information of the second piconet cannot be received because of a dynamic change in the communication

environment).

Regarding claim 22, Suzuki discloses:

The applicant claims "The method of claim 2, wherein the operating normally further comprises clearing a Distributed Reservation Protocol DRP BP reservation of the device when no beacons are received during the BP for a pre-determined clearing number of consecutive superframes" (Paragraph [0153] of Suzuki, wherein Suzuki discloses clearing the unassigned area once the beacon information of the second piconet cannot be received because of a dynamic change in the communication environment).

Regarding claim 26, Suzuki discloses:

The applicant claims "The method of claim 1, further comprising each device of the ad hoc network of devices beaconing in the same BP, by performing a selected one from the group consisting of: beaconing in parallel in each BP of each device of said network of devices" (Fig. 12 & Paragraph [0129] of Suzuki, wherein Suzuki discloses a first and second piconet coexisting in the same frequency channel for piconet operation, therefore in parallel with each other).

The applicant claims "and switching a BP to beacon in a same BP as other devices of said network of devices" (Fig. 4 of Suzuki, wherein Suzuki discloses having user D and user E to have the same beacon period, therefore when a device joins a daughter network it switches its own BP to beacon in the same BP as the other devices under the daughter network).

Regarding claim 27, Suzuki discloses:

The applicant claims "The method of claim 26, wherein a device that does not have to switch its BP is chosen in a distributed way based on an identifier of each device of said network of devices" (Paragraph [0196] & [0199] of Suzuki, wherein Suzuki discloses comparing the address information to see which is newer and depending on that deciding whether to join an existing piconet or operate as a parent piconet).

Regarding claim 28, Suzuki discloses:

The applicant claims "The method of claim 26, wherein a device that does not have to switch its BP is chosen in a distributed way based on the number of occupied beacon slots in the BP of each device of said network of devices" (Paragraph [0202] of Suzuki, wherein Suzuki discloses checking to see if the time slot request is practicable or if there are any time slot available; if there is, assigning a time slot to the adjacent station).

Regarding claim 29, Suzuki discloses:

The applicant claims "The method of claim 26, wherein a device that does not have to switch its BP is chosen in a distributed way based on the size of the portion of the superframe that is reserved by the beacons in a BP of a device of said network of devices" (Paragraph [0202] of Suzuki, wherein Suzuki discloses checking to see if the time slot request is practicable or if there are any time slot available or time slot that hasn't been reserved by the beacons; if there is, assigning a time slot to the adjacent station).

Regarding claim 30, Suzuki discloses:

The applicant claims "The method of claim 1, wherein each device of said network of devices may beacon in a different BP" (Fig. 4 of Suzuki, wherein Suzuki discloses the parent network having a beacon period and the daughter network having its own beacon period for user devices, therefore each device of said network may beacon in a different BP).

Regarding claim 31, Suzuki discloses:

The applicant claims "A distributed beaconing apparatus for an ad hoc network device" (Fig. 4 & Paragraphs [0183] & [0199] of Suzuki, wherein Suzuki discloses having a parent daughter relationship between piconets and a station having capabilities that can join to become a daughter piconet or become a parent piconet, therefore an adhoc network device).

The applicant claims "comprising: a receiver for receiving beacons and data transfers from other ad hoc network devices" (Paragraph [0195] of Suzuki, wherein Suzuki discloses receiving beacon signals).

The applicant claims "a transmitter for transmitting beacons of the device and data" (Paragraph [0197] of Suzuki, wherein Suzuki discloses sending a request to the control station of the adjacent piconet, therefore a transmitter).

The applicant claims "a distributed beacon period processing component that processes received beacons and beacons of the device for transmission" (Paragraph [0196] of Suzuki, wherein Suzuki discloses comparing the address of the own station with the adjacent station, therefore one of ordinary skill in the art would recognize that a processor is needed in complex machineries to perform such complex task).

The applicant claims "a controller operatively coupled to said distributed beacon processing component" (Paragraph [0199] of Suzuki, wherein Suzuki discloses the station to operate as a parent piconet, therefore it becomes a controller of the piconet).

The applicant claims "and configured to direct said processing component to i. divide the medium into a sequence of superframes comprising at least one slotted beaconing period (BP) and including a certain number of beacon slots each having a pre-determined beacon slot length, said slotted BP being followed by a data transfer period" (Figs. 4 & 7 & 17 of Suzuki, wherein Suzuki discloses a parent superframe has slotted contiguous beacon slots followed by data transfer period shown on Fig. 17 and wherein Suzuki discloses a TDMA frame having a beacon, contention access period and contention free period as well as disclosing each user being a controller and having daughter networks with the same format, therefore since there are multiple beaconing periods in the parent superframe, a predetermined beacon slot length is inherent to the invention of Suzuki).

The applicant claims "and ii. associate with at least one of an existing ad hoc network BP and a new ad hoc network BP as the BPs of the device" (Paragraphs [0195] & [0199] of Suzuki, wherein Suzuki discloses participating as a daughter piconet in the adjacent piconet when receiving a beacon signal and becoming a parent piconet if no beacon signal is received).

Regarding claim 32, Suzuki discloses:

The applicant claims "The apparatus of claim 31, wherein said controller is further configured to direct said distributed beacon processing component to:

iii. protect the BPs of the device in neighboring BPs; and iv. operate normally, once the BP of the device is protected" (Paragraphs [0207] - [0210] of Suzuki, wherein Suzuki discloses a daughter piconet appearing in a state with no timeslot assigned and the parent piconet assigning the unassigned area for the daughter piconet wherein once the daughter piconet receives the beacon signal from the parent piconet, the daughter piconet will start operating in the unassigned area).

Regarding claim 33, Suzuki discloses:

The applicant claims "The apparatus of claim 32, wherein the controller is further configured to: choose an empty slot of the BP of the device; and
beacon a beacon of the device in the chosen empty slot" (Paragraph [0206] – [0208] of Suzuki, wherein Suzuki discloses the daughter piconet sending a time slot assignment request from the parent piconet and receiving the parent piconet beacon signal including the unassigned area information so that the daughter piconet starts operating in the unassigned area).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 4, 8, 12-20, 23-25 and 34-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (US Patent Publication 2003/0169697 herein after referenced as Suzuki) in view of Kondylis et al. (US Patent Publication 2003/0012176 herein after referenced as Kondylis).

Regarding claim 4, Suzuki discloses:

The applicant claims "The method of claim 3, wherein the reservation is of type BP and priority = BP" (Fig. 17 & Paragraphs [0206] – [0207] of Suzuki, wherein Suzuki discloses the daughter sending a timeslot assignment request and the format of the request having a beaconing period, therefore the priority = BP).

Suzuki fails to explicitly recite "a DRP reservation type."

In a related field of endeavor, Kondylis discloses:

The applicant claims "a Distributed Reservation Protocol DRP reservation type" (Paragraph [0100] of Kondylis, wherein Kondylis discloses using a distributed reservation protocol (DRP) for scheduling broadcast transmissions, therefore a DRP reservation type).

Therefore it would have been obvious to one of ordinary skill in the art to modify the invention of Suzuki to incorporate the teachings of Kondylis of using a TDMA based distributed reservation protocol for scheduling for the purpose of ensuring data losses due to collisions are negligible (Paragraph [0100] of Kondylis).

Regarding claim 8, Suzuki discloses:

The applicant claims "The method of claim 7, wherein the second reservation is of type BP and priority = BP" (Fig. 17 & Paragraphs [0206] – [0207] of Suzuki, wherein Suzuki discloses the daughter sending a timeslot assignment request and the format of the request having a beaconing period, therefore the priority = BP).

Suzuki fails to explicitly recite "a Distributed Reservation Protocol DRP reservation type."

In a related field of endeavor, Kondylis discloses:

The applicant claims "a Distributed Reservation Protocol DRP reservation type" (Paragraph [0100] of Kondylis, wherein Kondylis discloses using a distributed reservation protocol (DRP) for scheduling broadcast transmissions, therefore a DRP reservation type).

Therefore it would have been obvious to one of ordinary skill in the art to modify the invention of Suzuki to incorporate the teachings of Kondylis of using a TDMA based distributed reservation protocol for scheduling for the purpose of ensuring data losses due to collisions are negligible (Paragraph [0100] of Kondylis).

Regarding claim 12, Suzuki in view of Kondylis discloses:

The applicant claims "The method of claim 8, wherein the protecting further comprises including a third reservation in the beacon of the device in the neighboring BPs to announce the BP" (Fig. 4 of Suzuki, wherein Suzuki discloses the frame format of the parent having multiple users each user being a daughter of the parent network and each daughter network acting as a parent network and having its own daughter network and beacons for other devices, therefore each parent network has a second

reservation having the beaconing period of other devices as well as a 3rd reservation having the beaconing period of other devices).

Regarding claim 13, Suzuki in view of Kondylis discloses “The method of claim 12.” The examiner rejects claim 13 with the same arguments provided above (see claim 8).

Regarding claim 14, Suzuki discloses:

The applicant claims "The method of claim 3, wherein the operating normally comprises receiving beacons over the medium” (Fig. 4 of Suzuki, wherein Suzuki discloses the parent network having daughter networks and each daughter networks having its own beacons, therefore receiving beacons over the medium).

The applicant claims "and when a beacon comprising of type BP is received” (Paragraphs [0206] - [0210] of Suzuki, wherein Suzuki discloses the daughter piconet being newly constructed in the same space as the parent piconet or moving from another space to the same space of the parent piconet requesting time slot assignment and transmitting a beacon signal).

The applicant claims "performing scanning for a new BP, and when a new BP is detected, protecting the new BP” (Paragraph [0195]-[0196] & [0199] & [0207]-[0210] of Suzuki, wherein Suzuki discloses receiving the beacon signal from an adjacent station and comparing to see which is newer and determining whether to be a parent piconet or a daughter piconet and allocating resources to the BP, therefore it is protecting the new BP by allocating resources for the new BP).

Suzuki fails to explicitly recite “a Distributed Reservation Protocol DRP reservation type.”

In a related field of endeavor, Kondylis discloses:

The applicant claims " a Distributed Reservation Protocol DRP reservation type” (Paragraph [0100] of Kondylis, wherein Kondylis discloses using a distributed reservation protocol (DRP) for scheduling broadcast transmissions, therefore a DRP reservation type).

Therefore it would have been obvious to one of ordinary skill in the art to modify the invention of Suzuki to incorporate the teachings of Kondylis of using a TDMA based distributed reservation protocol for scheduling for the purpose of ensuring data losses due to collisions are negligible (Paragraph [0100] of Kondylis).

Regarding claim 15, Suzuki in view of Kondylis discloses:

The applicant claims "The method of claim 14, wherein the protecting steps further comprises comprise the step of including a fourth reservation in the own beacon of the device to protect the BP” (Fig. 4 of Suzuki, wherein Suzuki discloses the frame format of the parent having multiple users each user being a daughter of the parent network and each daughter network acting as a parent network and having its own daughter network and beacons for other devices, therefore each parent network having multiple devices has multiple reservations such as a second reservation having the beaconing period of other devices as well as a 3rd and 4th reservation having the beaconing period of other devices).

Regarding claim 16, Suzuki in view of Kondylis discloses “The method of claim 15.” The examiner rejects claim 16 with the same arguments provided above (see claim 8).

Regarding claim 17, Suzuki in view of Kondylis discloses:

The applicant claims "The method of claim 14, wherein the operating normally further comprises a device optionally switching BP if two or more BPs co-exist” (Fig. 12 & Paragraph [0210] of Suzuki, wherein Suzuki discloses the parent network assigning resources to any other network that newly appears in the same space, therefore two or BPS co-exist are switched).

Regarding claim 18, Suzuki in view of Kondylis discloses:

The applicant claims "The method of claim 17, wherein the switching BP by the device further comprises including a special switching announcement field in a beacon to announce a new BP” (Paragraph [0196] of Suzuki, wherein Suzuki discloses comparing the address information to determine which is newer, therefore the address information is the special switching announcement field to announce a new BP).

The applicant claims "and beaconing for at least a predetermined announcement number of consecutive superframes with the beacon including the special switching announcement field” (Fig. 17 of Suzuki).

Regarding claim 19, Suzuki in view of Kondylis discloses:

The applicant claims "The method of claim 18, wherein the beaconing step further comprises one selected from the group consisting of: (a) performing including a DRP reservation of type BP to protect the new BP, if the new BP is not

already protected, and stopping transmission of the beacon, if the new BP is already protected; and (b) transmitting a beacon in the new BP" (Paragraphs [0207] - [0210] & [0153] of Suzuki, wherein Suzuki discloses a daughter piconet appearing in a state with no timeslot assigned and the parent piconet assigning the unassigned area for the daughter piconet wherein once the daughter piconet receives the beacon signal from the parent piconet, the daughter piconet will start operating in the unassigned area and continues to disclose clearing the setting of the unassigned area once the beacon information from the daughter piconet cannot be received due to a dynamic change in the communication environment).

Regarding claim 20, Suzuki in view of Kondylis discloses:

The applicant claims "The method of claim 18, wherein the operating normally further comprises when a beacon comprising a BP switching announcement of another device is received, performing scanning for a new BP, and when a new BP is detected, protecting the new BP" (Paragraph [0195]-[0196] & [0199] & [0207]-[0210] of Suzuki, wherein Suzuki discloses receiving the beacon signal from an adjacent station and comparing to see which is newer and determining whether to be a parent piconet or a daughter piconet and allocating resources to the BP, therefore it is protecting the new BP by allocating resources for the new BP).

Regarding claim 23, Suzuki in view of Kondylis discloses:

The applicant claims "The method of claim 14, wherein the operating normally further comprises when at least two BPs collide, until there are no longer any colliding BPs, repeatedly performing at least one of selected from the group consisting of: (a)

performing searching each colliding BP for enough empty beacon slots for the devices of an other colliding BP, and moving at least one colliding BP to a non-colliding beacon period start time; and (b) performing searching the superframe for enough empty beacon slots for the BP, and moving the BP to the empty slots in the superframe" (Fig. 14 & Paragraphs [0163] & [0168]-[0175] of Suzuki, wherein Suzuki discloses the method for allowing the coexistence of a plurality of piconets using a same frequency channel without interfering each other).

Regarding claim 24, Suzuki in view of Kondylis discloses:

The applicant claims "The method of claim 23, wherein the operating normally further comprises when an existing DRP reservation collides with a BP, moving the colliding Distributed Reservation Protocol DRP reservation to a non-colliding time" (Paragraphs [0171]-[0173] of Suzuki, wherein Suzuki discloses determining if there is any duplicate or colliding information and adjusting the information so that the assignment of the own piconet will not overlap the assignment of the other piconet, therefore since Suzuki discloses the adjustment of colliding information, one of ordinary skill in the art would recognize that the adjustment of the colliding information whether the BP or the DRP reservation or any other information is dependent on the system and user needs and design).

Regarding claim 25, Suzuki in view of Kondylis discloses:

The applicant claims "The method of claim 23, wherein operating normally further comprises moving the BP to a non-colliding time when an existing Distributed Reservation Protocol DRP reservation collides with a BP" (Paragraphs [0171]-[0173] of

Suzuki, wherein Suzuki discloses determining if there is any duplicate or colliding information and adjusting the information so that the assignment of the own piconet will not overlap the assignment of the other piconet as well as disclosing adjusting the beacon transmitting time so as not to overlap with the other piconets).

Regarding claim 34, Suzuki discloses:

The applicant claims "The apparatus of claim 32, wherein the distributed BP processing component protects the BP of the device by including a reservation of type BP and priority = BP in the beacon of the device to announce the BP to neighboring devices" (Fig. 17 & Paragraphs [0206] – [0207] of Suzuki, wherein Suzuki discloses the daughter sending a timeslot assignment request and the format of the request having a beaconing period, therefore the priority = BP).

Suzuki fails to explicitly recite "a Distributed Reservation Protocol DRP reservation type."

In a related field of endeavor, Kondylis discloses:

The applicant claims "a Distributed Reservation Protocol DRP reservation type" (Paragraph [0100] of Kondylis, wherein Kondylis discloses using a distributed reservation protocol (DRP) for scheduling broadcast transmissions, therefore a DRP reservation type).

Therefore it would have been obvious to one of ordinary skill in the art to modify the invention of Suzuki to incorporate the teachings of Kondylis of using a TDMA based distributed reservation protocol for scheduling for the purpose of ensuring data losses due to collisions are negligible (Paragraph [0100] of Kondylis).

Regarding claim 35, Suzuki in view of Kondylis discloses:

The applicant claims "The apparatus of claim 34, wherein the distributed BP processing component is further configured to include information regarding the beacons of other devices in the beacon of the device" (Fig. 4 of Suzuki, wherein Suzuki discloses the frame format of the parent having multiple users each user being a daughter of the parent network and having its own daughter network and beacons for other devices).

Regarding claim 36, Suzuki in view of Kondylis discloses:

The applicant claims "The apparatus of claim 35, wherein the controller is further configured to control the distributed BP to: scan the medium to detect at least one BP during the at least one superframe; if at least one BP is not detected, start a new BP as the BP of the device at a beacon period start time calculated in a pre-determined manner" (Fig. 4 & Paragraph [0199] of Suzuki, wherein Suzuki discloses not receiving a beacon signal from an adjacent station and operating as its own parent piconet, therefore it conducts scanning to determine if a beacon signal having a superframe with a beacon period is received and if not detected starting its own piconet having its own beacon period with its own start time).

The applicant claims "and if at least one BP is detected, decide to perform one of: i. join one of the at least one detected BP as the BP of the device, and
ii. start a new BP as the BP of the device at a BP start time determined in a pre-determined manner" (Fig. 4 & Paragraph [0195]-[0196] & [0199] of Suzuki, wherein Suzuki discloses receiving a beacon signal from the adjacent station and comparing if

the address of the own station is newer than the adjacent station and deciding whether to join the adjacent station piconet as a daughter or operate as its own parent piconet).

Regarding claim 37, Suzuki in view of Kondylis discloses:

The applicant claims "The apparatus of claim 36, wherein for normal operation the controller is further configured to: when a received beacon includes at least one of a Distributed Reservation Protocol DRP reservation of type BP and a BP switching announcement for an other device scan for a new BP, and when a new BP is detected, protect the new BP; when a beacon of a neighbor is received, protect the neighbor BP" (Paragraph [0195]-[0196] & [0199] & [0207]-[0210] of Suzuki, wherein Suzuki discloses receiving the beacon signal from an adjacent station and comparing to see which is newer and determining whether to be a parent piconet or a daughter piconet and allocating resources to the BP, therefore it is protecting the new BP by allocating resources for the new BP or the neighbor BP).

The applicant claims "when the device switches BPs announce in the beacon of the device, for a predetermined announcement number of consecutive superframes, that the device is switching BP" (Fig. 17 & Paragraph [0196] of Suzuki, wherein Suzuki discloses comparing the address information to determine which is newer, therefore the address information is the special switching announcement field to announce a new BP).

The applicant claims "optionally switch BPs if two or more BPs co-exist" (Fig. 12 & Paragraph [0210] of Suzuki, wherein Suzuki discloses the parent network assigning

resources to any other network that newly appears in the same space, therefore two or BPS co-exist are switched).

The applicant claims "terminate the BP; clear a DRP BP reservation of the device when no beacons are received during the BP for a pre-determined clearing number of consecutive superframes" (Paragraphs [0207] - [0210] & [0153] of Suzuki, wherein Suzuki discloses a daughter piconet appearing in a state with no timeslot assigned and the parent piconet assigning the unassigned area for the daughter piconet wherein once the daughter piconet receives the beacon signal from the parent piconet, the daughter piconet will start operating in the unassigned area and continues to disclose clearing the setting of the unassigned area once the beacon information from the daughter piconet cannot be received due to a dynamic change in the communication environment).

The applicant claims "when at least two BPs collide, until there are no longer any colliding BPs, repeatedly perform at least one function selected from the group consisting of- search each colliding BP for enough empty beacon slots for the devices of another colliding BP; and move at least one colliding BP to a non-colliding beacon period start time; and when an existing DRP reservation collides with a BP, moving the colliding DRP reservation to a non-colliding time of the data transfer period" (Paragraphs [0171]-[0173] of Suzuki, wherein Suzuki discloses determining if there is any duplicate or colliding information and adjusting the information so that the assignment of the own piconet will not overlap the assignment of the other piconet, therefore since Suzuki discloses the adjustment of colliding information, one of ordinary skill in the art would recognize that the adjustment of the colliding information whether

the BP or the DRP reservation or any other information is dependent on the system and user needs and design).

(10) Response to Argument

A. Claims 1-3, 5-7, 9-11, 21-22 and 26-33 are not properly rejected under 35 U.S.C. 102 (e) as anticipated by Suzuki.

1. Claim 1:

ARGUMENT 1: Suzuki does not disclose the feature of "partitioning the superframe into a slotted Beaconing Period (BP) having a plurality of contiguous beacon slots followed by a data transfer period because Appellant asserts the plain meaning of the term "contiguous" is sharing a common border, touching and sharing an edge or boundary such as connecting without a break or connected in time, uninterrupted and the Examiner's interpretation of the term "contiguous" as being neighboring or adjacent beacon slots being close or near or next to each other but not necessarily touching is unfounded and inconsistent with the plain meaning of "contiguous". In addition, Suzuki's beacon slots are separated at least by a CAP and a CFP, the beacon slots are not near to each other and as such Suzuki's beacon slots are not contiguous because a close examination of Fig. 17 reveals that the beacon slots appear to be relatively far

apart from each other because the beacon slots are separated by what appears to be a much larger time interval relative to the time interval of the beacon slot and the cumulative time intervals of the CAP, CFP and the Unassigned GTS appear to be far greater than the time interval of the beacon slot.

Examiner's Answer:

The examiner respectfully disagrees. Contrary to the appellant's assertions that the plain meaning of the term contiguous only relates to "sharing a common border, touching and sharing an edge or boundary such as connecting without a break or connected in time, uninterrupted", the term contiguous can also mean as "neighboring; adjacent" (American Heritage Dictionary); "Near but not quite touching" (Wordsmyth English Dicitonary) or "In close proximity without actually touching" (Dictionary.com). Therefore since the term "contiguous" can be interpreted as any of those meanings, the plain meaning and broad interpretation of the term cannot be limited to just what the appellant asserts "contiguous" to be. As can be seen in Figure 17 of Suzuki, the superframe comprises multiple beacon slots and multiple CAP and CFP and as such since the multiple beacon slots and multiple CAP and CFP are part of a single superframe, each of the multiple beacon slots and multiple CAP and CFP are therefore neighboring and in close proximity with each other. In addition, the appellant's argued limitations of "partitioning the superframe into a slotted beaconing period (BP) having a plurality of contiguous beacon slots followed by a

data transfer period" is broadly written. The examiner understands the appellant's invention and while the appellant would like to read the argued limitations as being "partitioning the superframe into a slotted beaconing period (BP), the slotted beaconing period having a plurality of contiguous beacon slots, the plurality of contiguous beacon slots is followed by and having a single data transfer period", the argued limitations as written does not provide the same depth, meaning or clarity to be read the way the appellant argues. The applicant's claim limitations as written can also be broadly interpreted as "partitioning the superframe into a slotted beaconing period, having a plurality of contiguous (beacon slots followed by the data transfer period)" emphasis being given on the open and close parenthesis on how the claim should be read which means that the claim can be interpreted as the superframe comprising several contiguous beacon periods each of the beacon periods having a data section transfer period following a beacon slot header which reads on cited Fig. 17 of Suzuki, which shows a parent superframe comprising a beacon followed by the CAP and CFP (data transfer period) followed by another beacon which is followed by another CAP and CFP (data transfer period). Therefore the superframe comprises several contiguous beacon periods each of the beacon periods having a data section following a beacon header (i.e. a beacon slot followed by the data transfer period which is contiguous to another beacon slot followed by the data transfer period which is contiguous to another beacon slot followed by the data transfer period) and as such reads on the argued limitations

of "partitioning the superframe into a slotted beaconing period (BP) having a plurality of contiguous beacon slots followed by a data transfer period".

ARGUMENT 2: Suzuki Fig. 17 does not disclose a slotted Beaconing Period having a plurality of contiguous beacon slots, followed by a data transfer period because Suzuki Fig. 17 illustrates a superframe with 3 beacon slots, which cannot be interpreted as a beaconing period because the period between the first and third beacon slots also includes a CAP, CFP and an Unassigned GTS. The CAP, CFP and Unassigned GTS are used for other than beacon transmission and reception.

Examiner's Answer:

The examiner respectfully disagrees. As provided in the explanation above, the applicant's argued limitations of "partitioning the superframe into a slotted beaconing period (BP) having a plurality of contiguous beacon slots followed by a data transfer period" as written is not the same as "a slotted Beaconing Period having a plurality of contiguous beacon slots, the plurality of contiguous beacon slots is followed by a single data transfer period." The applicant's claim limitations as written can also be broadly interpreted as "partitioning the superframe into a slotted beaconing period, having a plurality of

contiguous (beacon slots followed by the data transfer period)" emphasis being given on the open and close parenthesis on how the claim should be read which means that the claim can be interpreted as the superframe comprising several contiguous beacon periods each of the beacon periods having a data section transfer period following a beacon slot header which reads on cited Fig. 17 of Suzuki, which shows a parent superframe comprising a beacon followed by the CAP and CFP (data transfer period) followed by another beacon which is followed by another CAP and CFP (data transfer period). Therefore the superframe comprises several contiguous beacon periods each of the beacon periods having a data section following a beacon header (i.e. a beacon slot followed by the data transfer period which is contiguous to another beacon slot followed by the data transfer period which is contiguous to another beacon slot followed by the data transfer period) and as such reads on the argued limitations of "partitioning the superframe into a slotted beaconing period (BP) having a plurality of contiguous beacon slots followed by a data transfer period".

2. Claim 31

The appellant presents the same arguments as those presented in claim 1 above, therefore, the examiner also provides the same reasoning and the same explanations as those used for claim 1 above.

3. Claims 2, 3, 5-7, 9-11, 21, 22 and 26-33

The appellant presents the same arguments as those presented in claim 1 above, therefore, the examiner also provides the same reasoning and the same explanations as those used for claim 1 above.

B. Claims 4, 8, 12-20, 23-25 and 34-37 are not properly rejected under 35 U.S.C. 103 as unpatentable over Suzuki in view of Kondylis.

4. Claims 4, 8, 12-20, 23-25 and 34-37

The appellant present the same arguments as those presented in claim 1 above, therefore, the examiner also provides the same reasoning and the same explanations as those used for claim 1 above.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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